

# INDEX TO SPECIAL PROVISIONS TO THE STANDARD SPECIFICATIONS

<b>PART I</b>	<b>GENERAL PROVISION</b>		SP-1
	SECTION 1 - TERMS, DEFINITIONS, ABBREVIATIONS, AND SYMBOLS	SP-1	
	1-2 DEFINITIONS		
	SECTION 2 - SCOPE AND CONTROL OF THE WORK		SP-2
	2-1 SCOPE OF WORK		
	2-5 PLANS AND SPECIFICATIONS		
	2-8 RIGHT OF WAY		
	2-9 SURVEYING		
	2-11 INSPECTION		
	SECTION 4 - CONTROL OF MATERIALS		SP-4
	4-1 MATERIALS AND WORKMANSHIP		
	SECTION 5 - UTILITIES		SP-4
	5-1 LOCATION		
	5-4 RELOCATION		
	SECTION 6 - PROSECUTION, PROGRESS, AND ACCEPTANCE OF THE WORK	SP-5	
	6-2 PROSECUTION OF WORK		
	6-7 TIME OF COMPLETION		
	SECTION 7 - RESPONSIBILITIES OF THE CONTRACTOR		SP-6
	7-1 CONTRACTOR-S EQUIPMENT AND FACILITIES		
	7-2 LABOR		
	7-3 LIABILITY INSURANCE		
	7-5 PERMITS		
	7-7 COOPERATION AND COLLATERAL WORK		
	7-10 PUBLIC CONVENIENCE AND SAFETY		
<b>PART 11</b>	<b>CONSTRUCTION MATERIALS</b>	SP-12	
	SECTION 210 - PAINT AND PROTECTIVE COATINGS		SP-13
	SECTION 211 - SOILS AND AGGREGATE TESTS	SP-12	
<b>PART III</b>	<b>CONSTRUCTION METHODS</b>		SP-14
	SECTION 300 - EARTHWORK		SP-14
	300-1 CLEARING AND GRUBBING		
	300-2 UNCLASSIFIED EXCAVATION		

**INDEX TO SPECIAL PROVISIONS TO THE  
STANDARD SPECIFICATIONS**

SECTION 301 -	TREATED SOILS, SUBGRADE PREPARATION AND PLACEMENT OF BASE MATERIALS	SP-16
301-1	SUBGRADE PREPARATION	
301-2	UNTREATED BASE	
301-6	SOIL STERILANT	
301-7	BITUMINOUS PAVEMENT PLANING	
SECTION 302 -	ROADWAY SURFACING	SP-18
302-5	ASPHALT CONCRETE PAVEMENT	
SECTION 303 -	CONCRETE AND MASONRY CONSTRUCTION	SP-19
303-1	CONCRETE STRUCTURES	
303-4	MASONRY CONSTRUCTION	
303-5	CONCRETE CURBS, WALKS, GUTTERS, CROSS GUTTERS, ALLEY INTERSECTIONS, ACCESS RAMPS, AND DRIVEWAYS	
SECTION 304 -	METAL FABRICATION AND CONSTRUCTION	SP-22
304-2	METAL RAILINGS	
304-3	CHAIN LINK FENCE	
SECTION 306 -	UNDERGROUND CONDUIT CONSTRUCTION	SP-23
306-1	OPEN TRENCH OPERATIONS	
SECTION 307 -	STREET LIGHTING AND TRAFFIC SIGNALS	SP-23
310-5	PAINTING VARIOUS SURFACES	

## **CITY OF RANCHO MIRAGE**

### **SPECIAL PROVISIONS**

All work shall be in accordance with the Standard Specifications for Public Works Construction, the ~~A~~Green Book®, latest edition and amendments, as currently amended except as modified herein.

The contents of the Standard Specifications shall be used for public and private contract work. Provisions such as methods of measurement and payment, bidding, and change orders which are not applicable to private contract work, shall be deleted.

#### **PART I - GENERAL PROVISIONS**

##### **SECTION 1 - TERMS, DEFINITIONS, ABBREVIATIONS AND SYMBOLS**

###### **1-2 DEFINITIONS**

Acceptance	-	Completion of all work in accordance with approved plans, in conformance with City Improvements Standards and Specifications, and accepted by the City Council upon recommendation of the City Engineer.
Agency/City	-	City of Rancho Mirage
Agreement	-	As herein referred to shall mean the formal Subdivision Improvement Agreement or other Agreements entered into with the City Council of the City of Rancho Mirage by the Subdivider and/or Developer, as completed and executed by both parties. Said Agreements to set forth all requirements for improvement of the subject Subdivision, including roads, drainage structures or other work as set forth therein.
Board	-	City Council
Caltrans	-	California Department of Transportation
County	-	County of Riverside
Dispute & Appeal	-	A process by which, in the event of a dispute or misunderstanding as to the meaning or intent of

these Improvement Standards, a developer/subdivider may appeal for guidance or relief, in turn, to the Engineer, the City Engineer, the City Manager, and the City Council.

City Engineer or - Shall mean the City Engineer of the City of Rancho Mirage, California or his duly appointed alternate.

Federal- United States of America

Laboratory - The laboratories approved by the Engineer to test materials and work involved in the Agreement.

Permit - City encroachment, construction or grading permit

Standard - As herein referred to shall mean the Standard Specifications for Public Works Construction (SSPWC), the AGreen Book@latest edition, as Currently amended.

State - State of California

Subdivider/ - Any person, firm, corporation, partnership or Developer association who caused land to be divided into a Subdivision or developed for himself or for others, and has executed an agreement with the City of Rancho Mirage.

R.C.F.C.D. - Riverside County Flood Control District

C.V.W.D. - Coachella Valley Water District

SECTION 2 - SCOPE AND CONTROL OF THE WORK (Replace 2-1 with the following):

2-1 SCOPE OF WORK (Add the following):

The scope of the work shall be set forth in the Agreement with the subdivider, as shown on the plans, improvement standards as specified in these specifications, or as directed by the City Engineer. Minor changes in the scope of the work due to unforeseen local conditions shall not be made without prior approval of the City Engineer. Major alterations in design or standard of work will only be permitted following plan revision and execution of an amended Agreement, if required, and any work performed prior to the completion of same

will be performed at the owner's risk.

## 2-5 PLANS AND SPECIFICATIONS

### 2-5.1 General (Replace the first paragraph with the following):

The Contractor shall maintain a control set of Plans and Specifications on the project site at all times. All final locations determined in the field, and any deviations from the Plans and Specifications, shall be marked in red on this control set to show the as-built conditions. Upon completion of all work, the Contractor or subdivider shall cause the original plans to be revised, by the engineer of record for the plans, to show the record condition.

## 2-8 RIGHT-OF-WAY

The Contractor shall make arrangements, pay for, and assume all responsibility for acquiring, using, and disposing of additional work areas and facilities temporarily required. The Contractor shall hold the City harmless from all claims for damages caused by such actions.

## 2-9 SURVEY (Replace with the following):

### 2-9.3 Surveying Services (Replace with the following):

The Contractor shall perform and be responsible for the accuracy and protection of all surveying and construction staking required for the construction of the project. A set of survey cut sheets shall be supplied to the City Inspector prior to any commencement of work. The Contractor shall protect in place all monumentation or provide a civil engineer or surveyor to tie out and reinstall after construction. Per section 8771(b) of the Professional Land Surveyor's Act, monuments in danger of being disturbed must be "tied-out" prior to any construction, and Corner Records or a Record of Survey must be filed with the County. Copies of the Corner Records or Record of Survey must be submitted to the City as proof of compliance. When all disturbed monuments have been replaced to the satisfaction of the City, another set of Corner Records may be necessary to show the final condition.

## 2-11 INSPECTION (Replace with the following):

The work is subject to inspection and approval by the Engineer. The Contractor shall notify the Engineer in advance, by 3:00PM of the preceding day, when requesting inspection. Any work done without proper inspection will be subject to rejection. The Engineer and his/her authorized representatives shall at all times have access to the work during its construction at shops and yards as well as the project site. The Contractor shall provide every reasonable facility for ascertaining that the materials and workmanship are in accordance with these specifications. Inspection of the work shall not relieve the Contractor of the obligation to fulfill the conditions of the Agreement.

#### 2-11.1 Removal of Rejected and Unauthorized Work

All work that has been rejected shall be remedied, or removed and replaced, in an acceptable manner as directed by the engineer. Any work performed beyond the lines and grades shown on the plans or established by the Engineer, or any work performed without written authority, shall be considered as unauthorized work. Upon order of the Engineer, unauthorized work shall be remedied, removed, or replaced at no expense to the City.

### SECTION 4 - CONTROL OF MATERIALS

#### 4-1 MATERIALS AND WORKMANSHIP

##### 4-1.4 Test of Materials (Add the following):

In the event that control testing for the work performed by a private laboratory, the Engineer reserves the right to stipulate the number and location of those tests which will relate to ultimate acceptance of the work by the City.

##### 4-1.5 Certification (Add the following):

All materials used on the basis of a Certification of Compliance may be sampled and tested at any time. The fact that material is used on the basis of Certificate of Compliance shall not relieve the Contractor of responsibility for incorporating material in the work which conforms to the requirements of the plans and specifications and any such material not conforming to such requirements shall be subject to rejection whether in place or not. The City reserves the right to reject the use of material on the basis of a Certification of Compliance.

### SECTION 5 - UTILITIES

#### 5-1 LOCATION (Add the following paragraph)

The Contractor shall notify those utility companies known to have utilities in the work area, or as shown on the plans, at least 48 hours in advance of excavation around any of their structures and shall call the underground service alert at 1-800-422-4133 or 1-800-227-2600.

#### 5-4 RELOCATION (Replace with the following):

Any relocation of existing power or telephone poles, sewers, underground facilities, irrigation or domestic waterlines or other surface or subsurface utility installations necessary to clear the limits of the proposed work shall be the responsibility of the subdivider and/or Contractor, and he shall make all necessary arrangements with the owners thereof.

## SECTION 6 - PROSECUTION, PROGRESS, AND ACCEPTANCE OF THE WORK

### 6-2 PROSECUTION OF WORK (Replace with the following):

The Contractor shall so conduct its operations as to offer the least possible obstruction and inconvenience to public traffic, and shall have under construction no greater length or amount of work than they can execute properly. On existing roads, unless otherwise provided in the agreement, traffic shall be permitted to pass through the work with as little inconvenience and delay as possible with a minimum of one travel lane in each direction. Spillage of materials resulting from hauling operations along or across the traveled way shall be removed immediately. Existing traffic signal and highway lighting systems shall be kept in operation for the benefit of the traveling public during progress of the work, and other forces shall continue routing maintenance of existing systems.

Convenience of abutting owners along the road shall be provided for as far as practicable. Convenient access to driveways, house, and buildings along the line of the work shall be maintained by the Contractor and temporary approaches to crossings or intersecting highways shall be provided and kept in good condition.

In order to expedite the passage of public traffic through or around the work, the Contractor shall install or maintain signs, lights, barricades and other facilities for the sole convenience and direction of public traffic in accordance with the Caltrans Traffic Manual or the Work Area Traffic Control Handbook (WATCH), and such warning systems and devices shall be approved by the Engineer. Also, when so directed by the Engineer, he shall provide and station competent flagmen whose sole duties shall consist of directing the movement of public traffic through or around the work.

Water or dust palliative shall be applied as necessary for the alleviation or prevention of dust nuisance (see subsection 7-8.1).

### 6-7 TIME OF COMPLETION

#### 6-7.2 Working Day (Replace with the following):

The Contractor's activities shall be confined to the hours between 8:00 AM and 5:00 PM, Monday through Friday, excluding holidays. Deviation from these hours shall not be permitted without the prior consent of the Engineer, except in emergencies involving immediate hazard to persons or property.

In the event of either a requested or emergency deviation, inspection service fees shall be charged against the Contractor. The service fees shall be calculated at overtime rates including benefits, overhead, and travel time. The Contractor shall pay the service fees prior to resumption of normal



work.

## SECTION 7 - RESPONSIBILITIES OF THE CONTRACTOR

### 7-1 CONTRACTOR'S EQUIPMENT AND FACILITIES (Add the following):

A noise level limit of 86 dbA at a distance of fifty feet (50') shall apply to all construction equipment on or related to the job whether owned by the Contractor or not. The use of excessively loud warning signals shall be avoided except in those cases required for the protection of personnel.

### 7-2 LABOR

#### 7-2.2 Laws (Add the following):

The Contractor, and all subcontractors, suppliers and vendors, shall comply with all City, State, and Federal orders regarding affirmative action to ensure equal employment opportunities and fair employment practices.

### 7-3 LIABILITY INSURANCE (Replace the entire subsection with the following):

#### 7-3.1 Indemnification

The Contractor shall indemnify and save harmless the City of Rancho Mirage, the State of California, the County of Riverside, and/or any incorporated city from all claims or suits for damages arising from his prosecution of the contract work, as more fully described in subsection 7-3.2 ~~A Contractor's Liability~~.

The Contractor shall maintain, as required by the Engineer, during the life of the contract, a protective liability policy. The policy shall provide for not less than the following amounts:

Bodily Injury	\$ 500,000 each person \$ 2,000,000 each accident \$ 2,000,000 aggregate products and completed operations
Property Damage	\$ 1,000,000 each accident
Worker's Compensation	Statutory

All liability insurance policies shall bear an endorsement or shall have attached a rider whereby it is provided that, in the event of expiration or proposed cancellation of such policies for any reason whatsoever, the City shall be notified by registered mail, return receipt requested, giving a sufficient time before the date thereof, to comply with any applicable law or statute, but in no event less than 30 days before expiration or cancellation is effective.

The following statement shall be included on the insurance certificate:

**Additional Insured** The insurer agrees that the City and its City Council and/or all City Council appointed groups, committees, boards and any other City Council appointed body, and/or elective and appointive officers, servants, employees, agents, and consultants of the City when acting as such are additional insured hereunder, for the acts of the insured, and such insurance shall be primary to any insurance of the City.

The Contractor agrees to protect, defend and indemnify the City of Rancho Mirage against loss, damage or expense by reason of any suit, claims, demands, judgments and causes of action caused by the Contractor, his employees, agents or any subcontractor or by any third party arising out of or in consequence of the performance of all or any operations covered by the Certificate of Insurance. The Contractor, at his option, may include such coverage under his Public Liability coverage.

#### 7-3.2 Contractor's Liability

The City of Rancho Mirage, its City Council, Engineer, employees, agents, and consultants shall not be answerable or accountable in any manner, for any loss or damage that may happen to the work or any part thereof; or for any of the materials or other things used or employed in performing the work; or for injury to any person or persons, either workmen or the public; or for damage to adjoining property from any cause which might have been prevented by the Contractor, or his workmen, or any one employed by him; against all of which injuries or damages to persons and property the Contractor having control over such work must properly guard. The Contractor shall be responsible for any damage to any person or property resulting from defects or obstructions or any time before its completion and final acceptance, and shall indemnify and save harmless the City of Rancho Mirage, its City Council, and the Engineer from all suits or actions of every name and description, brought for, or on account of, any injuries or damages received or sustained by any person or person, by the Contractor, his servants or agents, in the construction of the work or by or in consequence of any negligence in guarding the same, in improper materials used in its construction, or by or on account of any act or omission of the Contractor or his agents, and so much of the money due the Contractor under and by virtue of the Contract as shall be considered necessary by the City may be retained by the City until disposition has been made of such suits or claims for damages aforesaid.

If, in the opinion of the Engineer, the precautions taken by the Contractor are not safe or adequate at any time during the life of the work, he may order the Contractor to take further precautions, and if the Contractor shall fail to do so, the Engineer may order the work done by others and charge the Contractor for the cost thereof. Failure of the Engineer to order such additional precautions, however, shall not relieve the Contractor from his full responsibility for public safety.



From time to time, during the period of work, the City may be served with claims, as a result of conduct by Contractor, which claims are for property damage or other damage in amounts of \$250.00 or less. These claims shall be resolved informally by City, within City's discretion, and charged back against Contractor by funds held in retention to meet these claims.

The City shall appoint a Claims Administrator who shall act on behalf of the City and Contractor. The Administrator shall recommend to City the resolution of any claim. The Claims Administrator's recommendation for payment shall be paid by Contractor within 30 days of the date of the recommendation. If Contractor fails to make payment to claimant within 30 days of the Administrator's decision, the City may make payment to the claimant and withhold, as retention, sufficient funds to reimburse City upon completion of the contract. Prior to making his recommendation, the Administrator shall obtain from Contractor all evidence relevant to the claim. Contractor shall have ten (10) days from the date requested by the Administrator to submit any evidence in the defense of the claim. Failure to do so waives any objection by Contractor to payment of the claim if, after an independent investigation, it is the opinion of the Administrator to make payment of that claim.

#### 7-5 PERMITS

The Contractor shall procure all necessary permits and licenses, pay all charges and fees, provide all necessary securities and give all notices necessary and incident to the due and lawful prosecution of the work. These include, but are not limited to, those permits required for grading, encroachment, construction, building, and demolition operations. Note in particular that mobilization may require Temporary Use Permits for such items as construction trailers, and security fencing. Any disturbance of soil may require a Grading Permit. Any planned import or export of soil will also require application forms and prior approval from the Red Imported Fire Ant Project regulatory personnel until such time as Rancho Mirage has been released from RIFA Quarantine.

#### 7-7 COOPERATION AND COLLATERAL WORK (Add the following):

The Contractor is advised as to the possibility of other construction projects within the proposed construction zone by the City of Rancho Mirage, other governing agencies or private enterprises. In the event of such projects, the Contractor shall coordinate with the applicable parties as to the extent of any time required to complete their work and shall schedule his work and conduct his operations so as to permit access and time as required for the concurrent work.

#### 7-10 PUBLIC CONVENIENCE AND SAFETY

7-10.1 Traffic and Access (Add the following paragraph):

When entering or leaving roadways carrying public traffic, the Contractor's equipment, whether empty or loaded, shall in all cases yield to public traffic.

The Contractor shall notify all affected property owners of their proposed schedule a minimum of 48 hours, but not more than 72 hours, in advance of any limitation or closure of access to their property. Form of said notice shall be approved by the Engineer and shall contain the date and time of the closure.

In the event of delay, whether beyond the control of the Contractor or not, the Contractor shall notify all affected property owners as to the extent of the delay and his revised schedule. In the event of delay over 72 hours, the Contractor shall re-notify the property owners as described above.

7-10.2 Storage of Equipment and Materials in Public Streets  
(Replace the first paragraph with the following):

Construction materials shall not be stored in streets, roads, or highways for more than 24 hours after unloading. All materials or equipment not installed or used within 24 hours after unloading shall be stored elsewhere by the Contractor at its expense unless they have obtained authorized additional storage time.

The Contractor may, at his own expense, maintain and operate a work and storage area outside of the public right-of-way. In such case, the Contractor shall submit to City written authorization from the owner(s) of the subject property prior to occupation. Occupation of site without written authorization shall be grounds for immediate suspension of work. The location of the site must be reviewed for approval by the City. Condition and operation of the "yard" shall conform to these specifications. The Contractor shall assume full responsibility for all damage to the site resulting from his operations and shall repair and/or replace same, at his own expense, to the satisfaction of the owner of the subject property. The Contractor shall vacate site and return it to pre-project conditions, or better, within five (5) working days following application for Notice of Acceptance. The site, at minimum, shall be cleaned and hydro-mulched for dust control, unless otherwise approved by the City Engineer. The Contractor shall obtain a written release from the property owner accepting the condition of the vacated site and releasing the Contractor from any further clean-up or restoration work and shall submit a copy of such release to City. The Notice of Acceptance will not be issued until said release is submitted.

7-10.3 Street Closures, Detours, and Barricades  
(Add the following):

The Contractor shall maintain the minimum traffic requirements designated, in the General Specifications. It shall be the Contractor's responsibility to furnish a detailed detour signing and barricade plan for City approval.

No street or access closure to through traffic shall be allowed without the express approval of the City Engineer.

7-10.4 Public Safety

7-10.4.1 Safety Orders (Add the following):

The Contractor shall comply with the provisions of any City ordinances or regulations regarding requirements for the protection of excavations and the nature of such protection.

7-10.4.2 Use of Explosives (Replace first paragraph with the following):

Explosives shall not be used without the permission of the City Council. Use of explosives, when so authorized, shall be in accordance with all applicable regulations.

7-10.5 Truck Haul Route (Add the following)  
Procedure for Truck Haul Route Approvals.

A proposed truck haul route is to be submitted to the City Engineer's office for review. Upon approval, an approved copy shall be returned to the Contractor. The Contractor shall post an approved copy on the job site. All trucks working that project shall also carry a copy. If a truck(s) is found not to be carrying an approved copy, the Contractor shall be subject to a Notice of Noncompliance (stop work order).

All trucks must cover the dirt with an acceptable tarp during transport for dust containment. Provisions for street sweeping and watering will also be required unless an active wheel washing facility proves that they are unnecessary to the satisfaction of the City Engineer.

All truck haul routes, as approved, are good only for the project time period, and trucks shall have to comply with the approved route only. If during the progress of the project an alternate route is needed, the Contractor shall submit a new plan. The haul route application shall contain the following information:

1. Map showing the proposed route

2. Project name
3. Owner's name, address and phone number
4. Grading Contractor's name, address and phone number
5. Type of material being hauled
6. Tract number(s) involved
7. Grading permit number
8. Encroachment or construction permit number

## **PART II - CONSTRUCTION MATERIALS**

Construction materials shall conform to the provisions in the applicable sections of the Standard Specifications and these Special Provisions. The more common construction materials and associated specifications are listed below.

### Rock Materials

All rock materials shall conform to Section 200 of the Standard Specifications. Requirements for crushed rock, rock dust, gravel, sand and stone for riprap shall conform to subsection 200-1. Untreated base materials shall conform to subsection 200-2. Base material for roadway construction shall conform to either of the following material:

1. Untreated Base Materials Sec. 200-2 (Green Book Latest Edition)
2. Aggregate Bases Sec. 26-1.02A (Caltrans Latest Edition)

### Asphalt Concrete

Materials for asphalt concrete shall conform to the provisions in the Caltrans Standard Specifications, 1999 Edition, subsection 39-2.02 with appropriate metric conversions applied, Base Course 19mm (3/4") maximum, medium grade, and the Top Course, 12.5mm (1/2") maximum, medium grade.

### Concrete Structures, Concrete Curb and Gutter

Materials for Portland Cement Concrete (P.C.C.) structures, curb and gutters, walks, paving, etc., shall conform to City Standard Plans. Class of concrete shall be in accordance with the City's Standard Plans.

### Culvert Pipe

Culvert pipe shall conform to Section 207 of the Standard Specifications. Culvert pipe shall be designed for the intended loading and use and shall be Reinforced Concrete Pipe - subsection 207-2.

Alternate pipe materials are subject to approval of the City Engineer.

## SECTION 211 - SOILS AND AGGREGATE TESTS

211-2.1 Laboratory Maximum Density (Replace with the following):

Laboratory Maximum Density tests shall be performed in accordance with Test Method No. Calif. 216G, Part II. The correction for oversized material as stated in Test Method No. Calif. 216 shall be replaced with Note 2 of ASTM D1557.

## SECTION 210 - PAINT AND PROTECTIVE COATINGS

### 210-1 PAINT

210-1.6.1 General (Replace with the following):

This work shall be in conformance with Caltrans Standard Specifications (Latest Edition).

210-1.6.5 Reflective Material (Replace the first sentence of the second paragraph with the following):

Glass beads for traffic paint shall conform to State Material Specification 8010-11E-22 (Type II).

211-2.2 Field Density (Add the following paragraph)

Field density tests shall be made by the Engineer or by a testing lab approved by the Engineer and under contract to the Subdivider or Contractor during the course of construction at the expense of the Subdivision Contractor. If field density tests indicate that any portion of the compacted subgrade has density lower than that specified, the Contractor shall rework that portion until the specified density is obtained. Retest of areas which have failed compaction shall be performed by the Engineer at the Contractor's expense.

## PART III - CONSTRUCTION METHODS

## SECTION 300 - EARTHWORK

### 300-1 CLEARING AND GRUBBING

#### 300-1.3.2 Requirements

(a) Bituminous Pavement (Replace the paragraph as follows):

Removal of bituminous pavement shall be made to a saw cut at the designated lines of removal shown on the Plans or as designated by the Engineer. Location of saw cut and width of existing



pavement to be removed shall be as shown on the plans or as determined by the Engineer in the field. Minimum laying depth of new pavement material shall be 0.10 foot at join lines. Where the pavement cut is for a trench, the pavement shall be saw-cut again after trench back-fill and compaction, at a minimum distance of 1 foot outside the original trench, in accordance with Standard Detail 604. The Engineer shall designate the limits to be removed and these designated areas shall be considered to take precedence over the areas shown on the plans. Spalled or loose blocks of pavement and pavement cracks wider than 3/8 inch shall be deemed justification for extending or adding to the removal and replacement of asphalt concrete pavement. The areas indicated for removal and replacement shall be excavated to the full depth of the proposed pavement section (asphalt and base), regardless of thickness.

(d) Miscellaneous (Add the following subsection):

In addition to the work outlined in subsection 300-1 of the Standard Specifications, the following items of work are included:

- (1) Mobilization in accordance with subsection 9-3.4 of the Standard Specifications.
- (2) Maintaining dust control at all times by watering, including developing a water supply and furnishing and placing all water for all work done in the contract, including water used for extra work.
- (3) Necessary traffic control, including all signs, barricades and flashers necessary to maintain proper control. Traffic control shall be pursuant to **AWATCH@handbook**.
- (4) Miscellaneous grading as required for join with new edge of pavement as shown on the plans or as directed by the Engineer.
- (5) Application of soil sterilant under asphalt paving.

- (6) Protection of existing asphalt concrete pavement within the travelways of the project streets unless specifically indicated to be removed. The Contractor shall exercise extreme care with his operations so as to not damage the existing pavement. The Contractor shall repair, at his own expense, all pavement deemed solely by the City to have been damaged during the project by the Contractor.
- (7) Protection of all existing improvements, including, but not limited to, utilities, landscaping, irrigation systems, signs, etc., within the construction zone, except those specifically shown on the plans or directed by the Engineer to be removed or relocated.
- (8) Cleanup of job site, and stabilization of any disturbed areas with an approved dust control material, such as a hydro-mulch.
- (9) Protection and replacement of monumentation and benchmarks.
- (10) Other items of work as directed in these Special Provisions.

This item shall also be interpreted to include the removal or relocation of any additional items not specifically mentioned herein which may be found within the work limits, whether shown or not shown on the plans, that need to be removed or relocated.

## 300-2 UNCLASSIFIED EXCAVATION

### 300-2.1 General (Add the following paragraph.)

Unclassified excavation shall include excavating, loading, stockpiling, hauling, and disposing of surplus material to the subgrade depth indicated on the plans, regardless of the thickness, or as directed by the Engineer. It shall also include loading, hauling, placing and compacting of fill as required by the plans or as directed by the Engineer.

### 300-2.2 Unsuitable Material

#### 300-2.2.1 General (Add the following):

Asphalt Pavement removed in accordance with subsection 300-1.3.2(a), either in large pieces or as “grindings”, shall not be incorporated into fills, road sub-base, or road base, unless specifically allowed by the City Engineer. Such materials should be re-cycled into acceptable Crushed Miscellaneous Base per subsection 200-2.4, or re-processed as Recycled Asphalt Concrete (RAC)– Hot-Mixed per subsection 203-7. Alternatively, asphalt “grindings” are always in demand for use on dirt roads as a dust control aggregate. The Public Works Department must be contacted for possible sites if this alternative is chosen. If not to be recycled or otherwise used, the

material must be disposed of in a legal manner at the Contractor's expense.

Soil known or suspected to contain Red Imported Fire Ants, as judged by the RIFA Project regulatory personnel, shall not be removed from any site, until it has been treated and cleared by said personnel. Any planned import or export of soil requires application forms and prior approval from the Red Imported Fire Ant Project regulatory personnel until such time as Rancho Mirage has been released from RIFA Quarantine.

300-2.6          Surplus Material          (Add the following):

All surplus materials shall be disposed of in a legal manner at the Contractor's expense.

## SECTION 301 - TREATED SOILS, SUBGRADE PREPARATION AND PLACEMENT OF BASE MATERIALS

### 301-1 SUBGRADE PREPARATION

Preparation of the pavement subgrade shall conform to the provisions of subsection 301-1 of the Standard Specifications and these provisions.

#### 301-1.3 Relative Compaction

Relative compaction shall be 95% relative compaction in the top 12" of the subgrade.

Where directed by the Engineer, additional aggregate base and/or native soil below the proposed subgrade level beyond the limits shown shall be removed to correct a subsurface soil problem. Imported Borrow shall then be used to backfill the created void.

### 301-2 UNTREATED BASE

#### 301-2.1 General (Replace with the following):

Untreated base shall be Crushed Aggregate Base per subsection 200-2.2 or Crushed Miscellaneous Base per subsection 200-2.4 and shall conform to all applicable provisions of Section 200.

### 301-6 SOIL STERILANT (Add new subsection):

#### 301-6.1 General

All areas indicated on the plans to receive Asphalt Concrete Pavement shall be prepared in

accordance with applicable sections of the Standard Specifications concerning subgrade preparation. In addition, after the compaction is completed, the Contractor shall apply a soil sterilant to the subgrade or aggregate base. Application shall be by spray equipment that provides good mechanical agitation and even coverage of the area to be treated. Spray equipment shall be calibrated before material is applied, and the Engineer's decision as to the effectiveness of the spray equipment shall be final. Great care shall be taken to apply soil sterilant to the designated areas only. Concrete or asphalt may be placed immediately after placement of soil sterilant.

#### 301.6.2 Operator's License

The Contractor's operator applying the soil sterilant shall be licensed by the State of California, Department of Food and Agricultural Affairs and registered with the Office of the Agricultural Commissioner of Riverside County as a pest control officer.

#### 301-6.3 Application

Any soil sterilant that is approved in writing by a licensed pest control advisor (for the purpose of which it will apply) may be used upon acceptance by the Engineer. The dye shall not stain concrete or masonry. Certification shall be furnished to the Engineer showing the purchase receipt and manufacturer's recommended rate of application of the material.

### SECTION 302 - ROADWAY SURFACING

#### 302-5 ASPHALT CONCRETE PAVEMENT

##### 302-5.1 General (Replace the first paragraph with the following):

Asphalt Concrete shall include overlay and full-depth patch and shall conform to the requirements of subsection 203-6 and subsection 302-5 of the Standard Specifications, as modified by these Special Provisions.

##### 302-5.2 Cold Milling Asphalt Concrete Pavement (Add the following):

##### 302-5.2.1 General (Add the following):

"Cold Milling", as referred to in this subsection, may also be commonly called "Cold Planing", or "Asphalt Grinding". The provisions will apply the same. The work to be done hereunder consists of cold planing removal of the designated thickness of existing pavement surface at those locations shown on the plans as being cold planed.

##### 302-5.2.2 Equipment (Add the following):

The Cold Milling machine shall be equipped with a high-pressure spray bar as standard equipment and shall use a water spray directed at the cutting head to help minimize smoke and dust. Only experienced operators should be allowed to run Cold Milling machinery due to the inherent damage risk.

302-5.2.3      Removal and Disposal of Material    (Add the following):

All runoff and debris shall be cleaned up by appropriate street sweeping equipment for that purpose. No aggregate shall remain on the project at the end of each work day. The residue shall not be flushed into storm drains, drywells or retention basins. Vacuum-type street sweepers should be used after all of the larger material has been swept up.

302-5.4            Tack Coat            (Replace the first paragraph with the following):

If the asphalt concrete pavement is being constructed directly upon an existing hard-surfaced pavement, a tack coat of SS-1h emulsified asphalt shall be applied uniformly upon the existing pavement prior to placing the asphalt concrete overlay. The pavement surface to be covered shall be free of water, foreign material, vegetation or dust before application of the tack coat. The tack coat shall be sprayed at a rate of 0.10 gallon per square yard with an asphalt distributor. Hand spraying shall be kept to a minimum. Prior to the application of the tack coat, existing cracks or holes 1/4" or larger shall be cleaned of all dirt and filled with Calseal or Crafcro Poly Flex Type III. Said tack coat shall not be applied until completion and curing of crack sealing. To minimize public inconvenience, no greater area shall be treated in any one day than is planned to be covered by asphalt concrete during the same day, unless otherwise authorized by the City Engineer.

302-5.5            Distribution and Spreading            (Add the following)

At those locations where new asphalt concrete pavement joins existing asphalt pavement, the Contractor shall provide by cold planing a 0.1' minimum header cut such that a butt joint can be achieved. No "feathering" or overlay of asphalt less than 0.1' will be allowed.

A minimum of two courses shall be laid for all asphalt concrete pavements of three inches or thicker. The base course shall be Caltrans 19mm (3/4") maximum, medium grade, AR4000, and the finish course shall be Caltrans 12.5mm (1/2") maximum, medium grade, AR4000. All courses shall be machine placed unless prior approvals are received from the Engineer. Mix designs from the supplier shall be submitted to the City for approval prior to any placement of asphaltic concrete. Pick up machines will not be allowed unless approved by the Engineer.

302-5.8            Manholes (and other structures)            (Add the following):

The raising to grade or lowering of sewer and storm drain manholes, water valve covers, blow-off assemblies, and other CVWD structures as shown on the plans, shall conform to subsection 302-5.8 except that the methods and materials used shall conform with current Coachella Valley Water District Standards, unless superseded by more stringent City Standards. The Contractor shall obtain any permits required by CVWD. Raising to grade or lowering of gas valve covers, electric vaults, and other utility manholes or structures shall be by the respective utility.

## SECTION 303 - CONCRETE AND MASONRY CONSTRUCTION

### 303-1 CONCRETE STRUCTURES

#### 303-1.1 General (Add the following paragraphs):

The surfaces of all concrete structures shall receive an Ordinary Surface Finish per subsection 303-1.9.2 unless otherwise specified in the Plans or Standard Drawings. The Contractor shall furnish all labor, tools, and materials to construct reinforced Portland Cement Concrete structures and appurtenant work to grades and dimensions shown on the Plans or staked in the field. The Contractor shall submit method for placement of P.C.C. for the Engineer's approval at least 10 working days prior to commencement of work.

Unless otherwise specified, transverse construction joints shall be placed in all reinforced sections at intervals of not less than 10 feet or more than 50 feet. The joints shall be in the same plane for the entire structure, and concrete thickness greater than 6 inches shall be keyed as directed by the Engineer.

The concrete for surface improvements shall be Class 560-C-3250, and that for inlet structures and junction structures shall be Class 560-C-3250.

#### 303-1.3 Forms (Add the following paragraphs):

Forms shall be braced to withstand the pressures developed and shall be tight to prevent the loss of mortar. Formed wall surface shall be free of any unevenness greater than 1/4 inch when checked with a 10-foot straight edge.

Concrete in walls with side slopes flatter than 3/4:1 shall be placed on suitable material that has been overfilled, compacted and trimmed to true grade. Backforms shall be used where the slide slope is 3/4:1 or steeper.

A clear non-staining form release agent which will not discolor nor affect the surface texture of the concrete and does not react with any ingredients of the concrete shall be used. The cost of furnishing and placing form release agent shall be included in the cost of Portland cement concrete.

### 303-1.7 Placing Reinforcement

#### 303-1.7.1 General (Add the following paragraphs):

Aluminum and plastic supports for reinforcement shall not be used.

Bars shall be accurately spaced as shown on the plans, and spacing of first bar immediately adjacent to transverse construction joint shall be one-half the required spacing shown on the plans. In no case shall the clear distance between parallel bars be less than 2-1/2 diameters of the bar, or a minimum of 2 inches. Unless otherwise shown on plans, embedment of reinforcing steel (other than stirrups and spacers) shall be 1-1/2 inches clear depth for #8 bars or smaller and shall be 2 inches clear for #9 bars and larger. Where placement of reinforcement steel required alternate bars of different size, embedment requirements shall be embedded not less than one inch clear depth. Measurement of embedment shall be from the outside of the bar to the nearest concrete face. Tack welding or butt welding of reinforcing bars will not be permitted.

#### 303-1.7-2 Splicing (Add the following paragraphs):

Reinforcing bars may be continuous at locations where splices are shown on the plans, at the option of the Contractor. The location of splices, except where shown on the plans, shall be determined by the Contractor based upon using available commercial lengths where applicable.

Splices shall consist of placing the reinforcing bars in contact and wiring them together in such a manner as to maintain the alignment of the bars and to provide minimum clearances.

No lapped splices shall be permitted at locations where the concrete section is not sufficient to provide a minimum clear distance of 2 inches between the splice and the nearest adjacent bar. The clearances to the surface of the concrete shall not be reduced.

Where grade 60 reinforcing bars are required, the length of lapped splices shall be as follows: Reinforcing bars No. 8, or smaller, shall be lapped at least 45 diameters of the smaller bar joined, and reinforcing bars Nos. 9, 10, and 11 shall be lapped at least 60 diameters of the small bar to be joined, except where otherwise shown on the plans.

Splices of tensile reinforcement at points of maximum stress shall be avoided; however, any deviation from splices shown on the plans shall be approved by the Engineer.

### 303-1.8 Placing Concrete

#### 303-1.8.1 General (Add the following paragraph):

The Contractor shall exercise caution in placement of concrete in walls and congested areas to ensure proper consolidation, no voids, and protection of waterstops in position. Adequate provisions shall be made for easy visual inspection of concrete placement, consolidation and waterstop protection. Pouring of walls in lifts, use of smaller maximum aggregate sizes or other methods as necessary, may be proposed by the Contractor and shall be permitted only after evaluation by the Engineer.

303-1.9.2 Ordinary Surface Finish (Add the following paragraph)

Ordinary Surface Finish shall not apply to rock pockets which, in the opinion of the Engineer, are of such extent or character as to affect the strength of the structure materially or to endanger the life of the steel reinforcement. In such cases, the Engineer may declare the concrete defective and require the removal and replacement of the structure affected.

303-1.10 Curing (Amend first paragraph with the following):

Exposed concrete surfaces shall be sprayed with Type 2 (white) curing compound at a uniform rate of one gallon per 150 square feet.

303-5 CONCRETE CURBS, WALKS, GUTTERS, CROSS  
GUTTERS, ALLEY INTERSECTIONS, ACCESS  
RAMPS AND DRIVEWAYS.

303-5.1.1 General (Add the following paragraph):

Concrete curb, gutters and sidewalks shall conform to subsection 305-5 of the Standard Specifications as modified by the Standard Plans and herein.

SECTION 304 - METAL FABRICATION AND CONSTRUCTION

304-2 METAL RAILINGS

304-2.2.1 General (Add the following):

Metal Beam Guard Railings shall conform to subsections 206-5 and 304-2 of the Standard Specifications. The exact location shall be determined by the Engineer in the field.

304-3 CHAIN LINK FENCE



304-3.1            General            (Add the following paragraph.):

Chain link fence usage is restricted in the City Of Rancho Mirage in accordance with Municipal Code Section 17.18, and any installation other than for temporary security fencing during construction should be cleared with the Planning Department.

## SECTION 306 -        UNDERGROUND CONDUIT CONSTRUCTION

### 306-1                OPEN TRENCH OPERATIONS

306-1/1/2        Maximum Length of Open Trench        (Replace with the following):

The maximum length of open trench shall not exceed 500 feet, including length of pipe laid but not backfilled, pipe laying construction, and open trench excavation. All excavations shall be backfilled to finish grade at the completion of daily operations. Resurfacing with a base course of B-AR4000 shall be completed within five days following pipe laying.

306-1.2.1        Bedding            (Add the following):

Pipe bedding for storm drains shall conform to Los Angeles County Standard Plan No. 2-D177 and subsection 306-1.2.1 of the Standard Specifications. Bedding shall be densified as per subsection 306-1.3.4.

306-1.3.4        Compaction Requirements        (Replace with the following):

All trench backfills located one foot above top of pipe shall be densified to 90% minimum relative compaction to within 12" of top of subgrade reference City Standard Plan No.604. Jetting shall not be permitted unless specifically approved in advance by the Engineer. The existing aggregate base may be used for backfill subject to approval by the Engineer.

Asphalt Concrete shall not be used for backfill unless it has been crushed to a maximum size of 3/4". No rocks greater than 6" diameter shall be allowed in the backfill. No nesting of rocks shall be allowed.

## SECTION 307 -        STREET LIGHTING AND TRAFFIC SIGNALS

Street Lighting and Traffic Signals shall conform to the provisions of Section 86, ASignals and Lighting@, of the California Department of Transportation Standard Specifications, for this item of work only.

The furnishing and installing of traffic signals and highway lighting shall conform to the provisions of Section 86, ~~A~~Signals and Lighting~~@~~ of the Standard Specifications of the State of California, Department of Transportation, latest edition. (Caltrans Specifications) and these Special Provisions.

Scheduling of Work shall conform to the provisions in subsection 86-1.06, Scheduling of Work, of the Standard Specifications and these special provisions.

The Contractor may perform subsurface work consisting of the installation of conduit, foundations, and detectors, prior to receipt of all electrical materials and equipment.

Above-ground work shall not commence until such time that the Contractor notifies the Engineer in writing of the date that all electrical materials and equipment are received, and said work shall start within 15 days after said date.

No materials or equipment shall be stored at the job sites until receipt of said notification by the Engineer. The job sites shall be maintained in neat and orderly condition at all times.

### STANDARD PLANS

Standard plans referred to on the signal plans and these Special Provisions for signal work shall be the Standard Plans of the State of California, Business and Transportation Agency, Department of Transportation, latest edition.

### EQUIPMENT LIST AND DRAWINGS

Equipment list and drawings of electrical equipment and material shall conform to the provisions in subsection 86-1.03, Equipment List and Drawings, of the Standard Specifications, and these Special Provisions.

The controller cabinet schematic wiring diagram and intersection sketch shall be combined into one drawing so that when the cabinet door is fully open, the drawing is oriented with the intersection.

The Contractor shall furnish a maintenance manual for all controller units, auxiliary equipment and vehicle detector sensor units and amplifiers. The maintenance manual and operation manual may be combined into one manual. The maintenance manual or combined maintenance and operation manual shall be submitted at the time the controllers are delivered for testing or, if ordered by the Engineer, previous to purchase. The maintenance manual shall include, but need not be limited to, the following items:

- (a) Specifications
- (b) Design Characteristics
- (c) General operation theory
- (d) Function of all controls
- (e) Detailed circuit analysis
- (f) Troubleshooting procedure (diagnostic routine)

- (g) Block circuit diagram
- (h) Voltage charts with wave forms
- (i) Geographical layout of components
- (j) Schematic diagrams
- (k) List of replaceable component parts with stock numbers.

The Contractor is required to submit to the Engineer As built@prints, prior to the City's accepting the installations. The prints shall indicate in red all deviations from the contract plans such as location of poles, pull boxes and runs depths of conduit, number of conductors and other appurtenant work for future references.

The Contractor shall also furnish cabinet inventory sheets. These sheets shall include serial and model numbers of all equipment contained in the cabinet.

### FOUNDATIONS

Foundations shall conform to the provisions in subsection 86-2.03, AFoundations,@ of the Caltrans Specifications (latest edition) and these Special Provisions.

Portland cement concrete shall conform to subsection 90-10, AMinor Concrete,@ of the Standard Specifications and shall contain not less than 564 pounds of cement per cubic yard for pile foundations.

### STANDARDS, STEEL PEDESTALS AND POSTS

Standards, steel pedestals and posts shall conform to the provisions in subsection 86-2.04, AStandards, Steel Pedestals and Posts,@ of the Standard Specification and these Special Provisions.

In addition to identifying each pole shaft as detailed on ES-6S of the State of California Standard Plans, the Contractor shall also identify each mast arm for all signals and luminaries. The stamped metal identification tag shall be located on the mast arm near the butt end and shall contain the same information required by ES-6S.

### CONDUIT

Conduit shall conform to the provision in subsection 86-2.05, AConduit@, of the Caltrans Specifications, and these Special Provisions.

Nonmetallic type conduit shall not be used. Rigid metal conduit to be used as a drilling or jacking rod shall be fitted with suitable drill bits for the size hole required.

Insulated bonding bushings shall be required on all conduit. After conductors have been installed, the ends of conduits terminating in pull boxes and controller cabinet shall be sealed with an approved type of sealing compound.

Conduit runs are shown in schematic form only. Actual installation shall be done in the most direct manner.

### PULL BOXES

Pull boxes shall conform to the provisions of subsection 86-2.06 ~~A~~Pull Boxes~~@~~ of the Caltrans Specifications and these Special Provisions.

In unimproved areas, install "Carsonite" pull box markers and marker posts, with P.B. stenciled on face of the marker.

Plastic type pull boxes shall not be allowed.

All pull boxes shall be set in a 1 foot wide, 4 inch thick "collar" of concrete in all areas other than A.C. or P.C.C. paving.

Pull boxes shall be No. 5 unless otherwise indicated on plans.

Steel covers for pull boxes shall be provided when the boxes are subject to vehicular traffic loads and shall be of the overlapping or recessed types. Recessed steel covers shall be used within sidewalk areas subject to traffic loads.

After conductors have been installed, the ends of conduits terminating in pull boxes and controller cabinet shall be sealed with an approved type of sealing compound.

The inside bottom of all pull boxes shall be grouted, with a 1" drain hole.

### CONDUCTORS AND WIRING

Conductors and wiring shall conform to the provisions in subsection 86-2.08, ~~A~~Conductors~~,@~~ and subsection 86-2.09, ~~A~~Wiring~~,@~~ on the Caltrans Specifications, and these Special Provisions.

Conductors No. 8 AWG and larger shall be stranded.

Nylon-jacketed conductors shall not be used.

### SPLICE INSULATION

Splice insulation shall conform to the provisions in Section 86-2, 09E, ASplice Insulation,@ of the Caltrans Specifications (latest edition) and these Special Provisions.

Conductors No. 10 AWG or larger shall be spliced by the use of AC@ shaped compression connectors.

Splices shall be insulated by Method AB@.

### BONDING AND GROUNDING

Bonding and grounding shall conform to the provisions in subsection 86-2.10 ABonding and Ground,@ of the Caltrans Specifications (latest edition) and these Special Provisions.

Grounding jumper shall be attached by a 3/16 inch or larger brass bolt in the signal standard or controller pedestal and shall be run to the conduit, ground rod or bonding wire in adjacent pull box.

Grounding jumper shall be visible after cap has been poured on foundation.

### SERVICE

Service shall conform to the provision in subsection 86-2.11, AService,@ of the Caltrans Specifications (latest edition) and these Special Provisions.

The Contractor shall notify the Engineer in writing at least 15 calendar days in advance of the date on which he desires any service connections or disconnects to be made. The Contractor shall be entitled to no extension of time or other compensation for any delay to this operation resulting from his failure to pay for all costs to provide the necessary connection for the traffic signal and lighting system.

### TESTING

Testing shall conform to the provisions in subsection 86-2,14 ATesting,@ of the Caltrans Specifications (latest edition) and these Special Provisions.

Testing of traffic signal equipment, including controller units, fully wired cabinets and auxiliary equipment as specified in subsection 86-3 AControllers,@ of the Standard Specifications will be performed by a signal-testing laboratory designated by the City. Approximately 21 days will be required for testing and notification of the final results.

Turn-on of the new traffic signal system shall not be made on Friday or the day preceding a legal holiday. The Traffic Engineer shall be notified at least 48 hours prior to the intended turn-on.

#### SOLID STATE TRAFFIC-ACTUATED CONTROLLERS

Solid state traffic-actuated controller units, cabinets and auxiliary equipment shall conform to the provisions in subsection 86-3 A Controllers, of the Caltrans Specifications and these Special Provisions.

Supply and install, latest edition and version, Eight Phase Econolite ASC/2S-2100 TS-2 Type 1 controller assembly and appurtenances in a Type AP Aluminum Cabinet. Detector timing (Delay and Call Hold) shall be internal to the controller. Cabinet shall be wired to operate the number of phases indicated on the plan.

Controller cabinet shall be provided with emergency vehicle preemption internal to controller. Preemption equipment provided shall be 3M Opticom phase selectors, detectors and cable.

The convenience receptacle shall have ground fault circuit interrupton as defined by code. Circuit interruption shall occur on six milliamperes of ground fault current.

The cabinet shall be equipped with a plastic envelope to hold wiring diagrams, signal timing instructions and miscellaneous items.

The Contractor shall arrange to have a signal technician, qualified to work on the controller assembly and employed by the controller manufacturer or his representative, present at the time the equipment is turned on.

#### VEHICLE SIGNAL FACES AND SIGNAL HEADS

Vehicle signal faces, signal heads and auxiliary equipment, as shown on the plans, and the installation thereof, shall conform to the provisions in subsection 86-4.06, inclusive of the Caltrans Specifications (latest edition) and these Special Provisions.

Red, Amber, and Green vehicle indication lamps shall be 12" width, L.E.D. type, with color and other specifications per I.T.E. standards. Power consumption shall be no more than 26 watts. All new vehicle indications shall be metal.

The sixth paragraph of subsection 86-4.01 A, A Optical Units, of the Standard Specification is amended to read:

Lenses shall be made of glass. Plastic shall not be allowed.

#### PEDESTRIAN SIGNALS

Pedestrian signals shall conform to the provisions in subsection 86-4.05, ~~A~~Pedestrian Signals,~~@~~of the Caltrans Specifications (latest edition) and these Special Provisions.

Pedestrian indications shall be Solid State with international symbol and Z crate visors.

#### DETECTORS

Detectors shall conform to the provisions in subsection 86-5, ~~A~~Detectors,~~@~~ of Caltrans Specifications and these Special Provisions. Detector sensor units shall be detector systems card rack mounted two or four channel as indicated on the plans. Loop detector lead-in cables shall be type C.

The Contractor shall test the detectors with a motor-driven cycle, as defined in the California Vehicle Code, that is licensed for street use by the Department of Motor Vehicles of the State of California. The unladen weight of the vehicle shall not exceed 220 pounds and the engine displacement shall not exceed 100 cubic centimeters. Special featured, components, or vehicles designed to activate the detector will not be permitted.

The Contractor shall provide an operator who shall drive the motor-driven cycle through the response of our detection areas of the detector at not less than 3 miles per hour nor more than 7 miles per hour. The detector shall provide an indication in response to this test.

#### TRAFFIC SIGNAL EQUIPMENT PAINTING

Painting shall conform to the provisions in subsection 86-2.16, ~~A~~Painting,~~@~~ of the Standard Specifications and these Special Provisions.

All paint shall be furnished by the CONTRACTOR OR THEIR SUPPLIERS.

This specification is designed for the use of Tnemec Series 75 acrylic polyurethane enamel topcoat in conjunction with 90-97 Tnemec-zinc urethane primer for ferrous metals and Series 69 epoxoline for aluminum surfaces for protection and finish of the exterior of colored steel poles. Interior surfaces shall be protected with Tnemec Series 69 Hi-Build Epoxoline.

The pole manufacturer will be required to furnish the CITY with an original notarized Certificate of Compliance which guarantees the coating system used is in conformance with those specifications, that it is an equivalent coating system, and that it is free of defective workmanship. Final payment will be withheld pending the City's receipt of this certificate.



All signal standards, mast arms and luminaire arms shall be finished in the factory complete in accordance with the following specifications:

1. Surface Preparation for Interior Protective Coatings:  
Remove all loose rust, dirt, moisture, grease and other contaminants from the surface. Power tool clean in accordance with Steel Structures Painting Council Specifications SSPC-SP3, or hand tool clean in accordance with SSPC-SP2.
2. Surface Preparation for Exterior Protective Coating System:  
Exterior surfaces of shaft and arm(s), and component parts shall be abrasive-blasted in accordance with coating manufacturer's recommendations. The lower interior portions of the shaft from the base plate bottom to the top of the handhold opening shall receive the same treatment. All rough and sharp edges shall be rounded off. All weld splatter, flux and slag around the base plate, handhold, arm connections and other areas of welding shall be removed in accordance with SSPC-SP6 commercial blast for ferrous metal. SSPC-SP7 brush off for aluminum.
3. Requirement of Interior Protective Coating Systems:  
Treat interior surfaces with a heavy duty, corrosion-resistant coating system consisting of one coat of epoxy polyamide (Tnemec Series 66) at a minimum of 5 mils dry film thickness.
4. Requirement of Exterior Protective Coating Systems:  
After abrasive blast, all exterior ferrous metal surfaces shall receive a treatment with a heavy duty, corrosion-resistant protective coating system consisting of one of 90-97 Tnemec-zinc rich urethane primer at a minimum of 2.5 mils dry film thickness to provide basis of corrosion protection. All exterior aluminum surfaces shall receive a primer treatment of Tnemec Series 69 Expoline at a minimum of 2.5 mils D.F.T. Primer shall be strictly applied according to manufacturer's recommendations. The lower interior portion of the shaft, from the bottom of the base plate to the top of the handhold opening, shall receive the same application treatment. All surfaces shall be kept free of moisture, oil, grease and other organic matter until coated. Failure to do so will prevent proper adhesion and will require that the abrasive-blast procedure be reapplied. Solvent wiping is not satisfactory as contamination may be spread and not be removed.

Color top coat shall consist of two coats of acrylic polyurethane enamel color topcoat (Tnemec AJ12 Weathered Bark) and each coat shall be a minimum 2.5 mils D.F.T. thickness. The topcoat shall be a minimum 5 mils D.F.T. The total exterior coating system (primer and top coat) shall consist of a minimum of 7.5 mils D.F.T.

Coating shall be composed of acrylic resin and modifiers in suitable organic solvents forming a satin finish with lasting color and resistance to fumes splash and spillage of acids

and alkalis.

All two-coat systems for exterior application shall be supplied by the same coating manufacturer to ensure a compatible protective coating system resistant to corrosion, abrasion and impact.

5. Handling and Shipment:

Poles shall be handled in a manner that will preserve the overall appearance and prevent damage to the coating. The use of chains or cables for loading, unloading, shipping or installing is prohibited. Only 0.75-inch diameter or larger non-abrasive rope or equivalent nylon belting shall be used. Adequate hold-downs and appropriate blocking shall be utilized for shipping to prevent load movement and damage to the outer coating in transit. No handling shall be allowed until Adry through@ condition has been achieved with the coating.

Signal heads, signal head housings and mountings, brackets and fittings, outside of hoods, pedestrian push button housings, pedestrian signal head housings and hood, back faces of back plates, service equipment cabinets, I.S.N.S. frames, hangers and clamps, and luminaries shall be finished to all requirements per subsection 4 and 5 above. Care shall be taken not to paint over the photo cells on the back of Programmed Visibility Signal Heads.

Interior of signal hoods, louvers and front faces of backplates shall be finished with two applications of enamel, ATraffic Signal Lusterless, Black@as specified in subsection 91-4.01 of the Standard Specifications, and shall have treated powder coating prior to painting by an CITY-approved process.

The Controller cabinet shall not be painted.

SECTION 310 - TRAFFIC STRIPING, MARKINGS AND MARKERS

310-5 PAINTING VARIOUS SURFACES

310-5.6.1 General (Add the following):

Traffic signs, stripes, legends, and raised pavement markers shall conform to the California Department of Transportation Traffic Sign Specifications, Traffic Manual, Maintenance Manual, and Standard Specifications and Sections 210 and 310 of the Standard Specifications as modified by these Special Provisions.

Raised pavement markers shall be Stimsonite Model 948 markers and shall be of type as called for on the plans. Raised pavement markers shall be installed no sooner than 7 days after paving and no later than 14 days.

The adhesive used to affix raised pavement markers and marker posts shall conform to subsection 85-1.06 of the Caltrans Standard Specifications, modified as follows:

Markers shall be cemented to the pavement using hot melt asphaltic bitumen adhesive at a temperature of 400 - 425 F. The adhesive shall be indirectly heated in an applicator with continuous agitation. Markers shall be placed immediately after application of the adhesive. The adhesive shall conform to the following provisions:

Flash Point, COC    F.	550 minimum	ASTM D 92
Softning Point,    F.		200 minimum ASTM D 36
Viscosity, Brookfield, 400 F.		7500 6 P, maximum ASTM D 2196
Penetration, 100g, 5 sec, 77 F.	10 -20	ASTM D 5
Filler Content, % by weight (Insoluble in 1,1,1 Trichloroethane)		50 - 70 ASTM D 2371
Filler Material		Calcium Carbonate
Filler Fineness, %    passing		100% No. 100 95% No. 200 75% No. 325

Packaging:    The adhesive shall be packaged in self-releasing cardboard containers which will stack properly. The label shall show the manufacturer, quantity and lot or batch number. **ABituminous Adhesive for Pavement Markers:** shall be printed in bold lettering on the label.

The Engineer shall determine when the hot melt asphaltic bitumen has cooled sufficiently to bear traffic.

Pavement legends shall conform to City stencils, size and shape.  
Stripes and pavement legends shall be reflectorized.

Cross walks, 8" channelizing lines, arrows and words shall be alkyd resin thermoplastic.

Sign posts for new installation shall be 2" x 2" square steel channel posts painted brown and set in a PCC base.

The PCC base shall be 520-C-2500 concrete of 12" deep by 12" square, or as directed by the Engineer. See Standard 602 for installation details.

310-5.6.7 Layout, Alignment, and Spotting (Add the following):

LAYOUT - The Contractor shall furnish the necessary control points for all striping and markings and shall be responsible for the completeness and accuracy thereof to the satisfaction of the Engineer.

The Contractor shall perform all layout, alignment, and spotting for traffic stripes and markings. Traffic striping shall not vary by more than **2** inch in 50 feet from the alignment shown on the plans. The dimensional details of the stripes and markings shall conform to the provisions set forth in the Traffic Manual and Maintenance Manual available for Caltrans.

Spotting with cat tracks or dribble lines shall be performed prior to the removal of existing stripes. Cat tracks shall consist of spots of paint not more than 3 inches in width and not more than 5 feet apart along the alignment of the stripe. Paint for the cat tracks shall be the same as that for the intended stripe. Paint for the dribble lines shall be neutral color obtained by mixing approximately two parts white paint with one part black paint.

SPOTTING - Spotting shall be completed prior to the removal of any existing stripes or markings. Existing stripes and markings shall be removed prior to painting new ones, but in no case shall any section of street be left without the proper striping for more than 24 hours, or over weekends or holidays.

**NO STRIPING SHALL BE PAINTED UNTIL THE LAYOUT AND SPOTTING HAVE BEEN SPECIFICALLY APPROVED BY THE ENGINEER.**

310-5.6.8. Application of Paint (Add the following):

Paint for Traffic Striping and Marking over new asphalt pavement shall be applied in two

coats. The first coat shall be applied within 24 hours following completion of paving. The second coat shall not be applied prior to fourteen days after the first coat. The rate of application for both coats shall be 16 to 18 gallons per mile of solid 4-inch wide stripe (one gallon per 98 square feet). The dry paint film thickness of each coat shall be 8 to 10 mils. Glass beads shall be applied to each coat at the rate of 110 pounds per mile of solid 4-inch wide stripe (one pound per 167 square feet). Paint for Traffic Striping and Marking over existing asphalt pavement or existing striping shall require one coat only as described above. Thermoplastic striping shall be used at locations as directed by the City Engineer.

Paint for double yellow and two-way left turn striping shall include a 3" wide black painted stripe or thermoplastic as directed by the Engineer.

Any removal of conflicting traffic stripes and markings shall be accomplished by the wet sandblasting method or waterblasting method. The machine used for this purpose shall meet all requirements of the air pollution control district having jurisdiction in the project area. All sand used in wet sandblasting shall be removed by the use of a street sweeper without delay as the operation progresses.